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AM100315

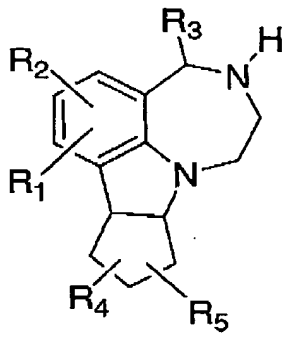
Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

Claims 1 to 12 (cancelled)

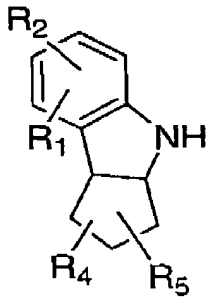
13. (Currently amended) A process for synthesis of a compound of the formula:



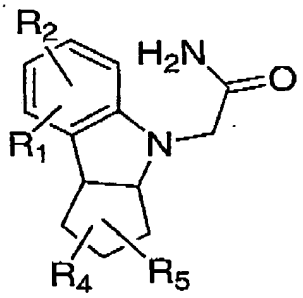
wherein R_1, R_2, R_4 and R_5 are each, independently, hydrogen, hydroxy, alkyl of 1-6 carbon atoms, cycloalkyl, alkoxy of 1-6 carbon atoms, halogen, fluorinated alkyl of from 1 to 6 carbon atoms, -CN, -NH-SO_2-alkyl of 1-6 carbon atoms, -SO_2-NH-alkyl of 1-6 carbon atoms, alkyl amide of 1-6 carbon atoms, amino, alkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms per alkyl moiety, fluorinated alkoxy of 1-6 carbon atoms, acyl of 2-7 carbon atoms, aryl or aroyl;

R_3 is hydrogen, alkyl of 1-6 carbon atoms, cycloalkyl, alkoxy of 1-6 carbon atoms, fluorinated alkyl of from 1 to 6 carbon atoms, -NH-SO_2-alkyl of 1-6 carbon atoms, -SO_2-NH-alkyl of 1-6 carbon atoms, alkyl amide of 1-6 carbon atoms, amino, alkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms per alkyl moiety, fluorinated alkoxy of 1-6 carbon atoms, acyl of 2-7 carbon atoms, aryl, or aroyl; the process comprising the steps of:

a) treating ~~an indoline~~ a cyclopenta[b]indoline compound of the formula:

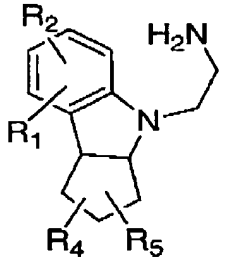


with an electrophile to form an optionally substituted acetamide compound of the formula:



;

b) treating the optionally substituted acetamide of step a) with a reducing agent to form the corresponding optionally substituted cyclopenta[b]indol-4-yl-amine of the formula:



; and

c) treating the cyclopenta[b]indol-4-yl-amine of step b) with an aldehyde in the presence of an acid to form an optionally substituted diaza-benzo[cd]cyclopenta[a] azulene compound of the formula:

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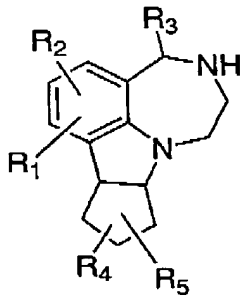
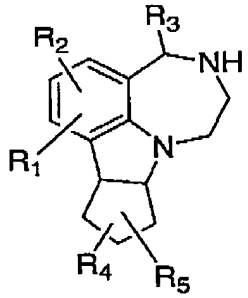
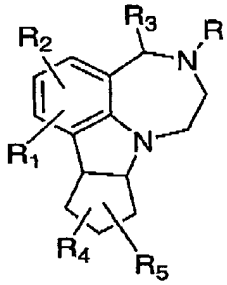


14. (Previously presented) The process of Claim 13 further comprising the step of treating the diaza-benzo[cd]cyclopenta[a]azulenc compound of the formula:



with an alkylating agent to produce a compound of the formula:



wherein R is alkyl of from 1 to 6 carbon atoms and R_1, R_2, R_3, R_4 and R_5 are as defined in Claim 13.

15. (Previously presented) The process of Claim 13 further comprising the step of treating the diaza-benzo[cd]cyclopenta[a]azulene compound of the formula:

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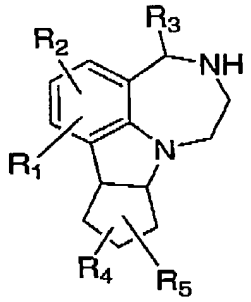
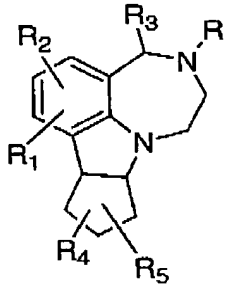
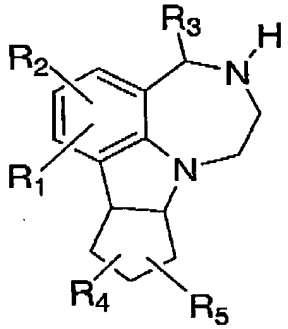


with an acylating agent to produce a compound of the formula:



wherein R is –C(O)R'; R' is alkyl of from 1 to 6 carbon atoms or aryl;
and R_1, R_2, R_3, R_4 and R_5 are as defined in Claim 13.

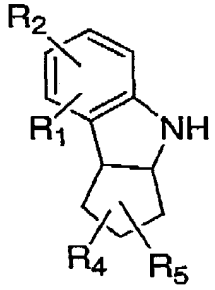
16. (Currently amended) A process for preparing a compound of the formula:



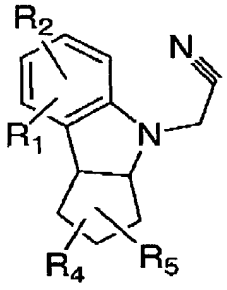
wherein R_1, R_2, R_4 and R_5 are each, independently, hydrogen, hydroxy, alkyl of 1-6 carbon atoms, cycloalkyl, alkoxy of 1-6 carbon atoms, halogen, fluorinated alkyl of from 1 to 6 carbon atoms, -CN, -NH-SO_2-alkyl of 1-6 carbon atoms, -SO_2-NH-alkyl of 1-6 carbon atoms, alkyl amide of 1-6 carbon atoms, amino, alkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms per alkyl moiety, fluorinated alkoxy of 1-6 carbon atoms, acyl of 2-7 carbon atoms, aryl or aroyl;

R_3 is hydrogen, alkyl of 1-6 carbon atoms, cycloalkyl, alkoxy of 1-6 carbon atoms, fluorinated alkyl of from 1 to 6 carbon atoms, -NH-SO_2-alkyl of 1-6 carbon atoms, -SO_2-NH-alkyl of 1-6 carbon atoms, alkyl amide of 1-6 carbon atoms, amino, alkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms per alkyl moiety, fluorinated alkoxy of 1-6 carbon atoms, acyl of 2-7 carbon atoms, aryl, or aroyl; the process comprising the steps of:

a) treating an optionally substituted ~~indoline~~ cyclopenta[b]indoline compound of the formula:

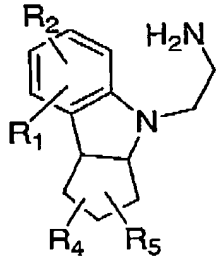


with an electrophile to form an optionally substituted nitrile compound of the formula:



;

b) treating the optionally substituted nitrile compound of step a) with a reducing agent to provide an optionally substituted amine compound of the formula:



; and

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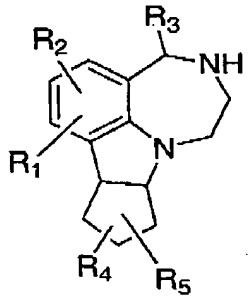
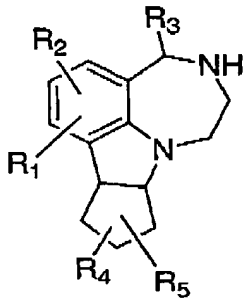
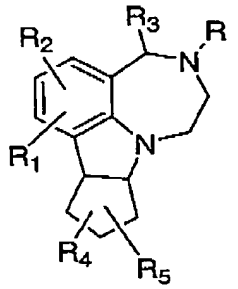
c) treating the amine compound of step b) with an aldehyde in the presence of an acid to form an optionally substituted diaza-benzo[cd]cyclopenta[a]azulene compound of the formula:



17. (Previously presented) The process of Claim 16 further comprising the step of treating the diaza-benzo[cd]cyclopenta[a]azulene compound of the formula:



with an alkylating agent to produce a compound of the formula:



wherein R is alkyl of from 1 to 6 carbon atoms and R_1, R_2, R_3, R_4 and R_5 are as defined in Claim 16.

18. (Previously presented) The process of Claim 16 further comprising the step of treating the diaza-benzo[cd]cyclopenta[a]azulene compound of the formula:

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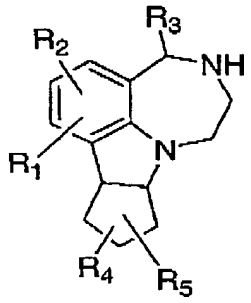
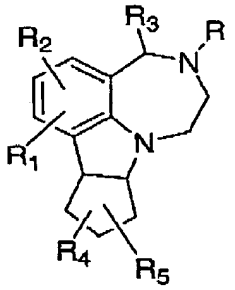
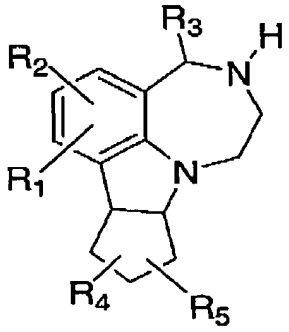


with an acylating agent to produce a compound of the formula:



wherein R is –C(O)R'; R' is alkyl of from 1 to 6 carbon atoms or aryl;
and R_1, R_2, R_3, R_4 and R_5 are as defined in Claim 16.

19. (Previously presented) A process for preparing a compound of the formula:



wherein R_1, R_2, R_4 and R_5 are each, independently, hydrogen, hydroxy, alkyl of 1-6 carbon atoms, cycloalkyl, alkoxy of 1-6 carbon atoms, halogen, fluorinated alkyl of from 1 to 6 carbon atoms, -CN, -NH-SO_2-alkyl of 1-6 carbon atoms, -SO_2-NH-alkyl of 1-6 carbon atoms, alkyl amide of 1-6 carbon atoms, amino, alkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms per alkyl moiety, fluorinated alkoxy of 1-6 carbon atoms, acyl of 2-7 carbon atoms, aryl or aroyl;

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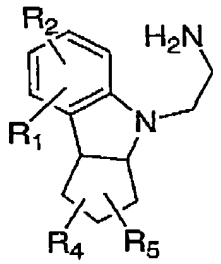
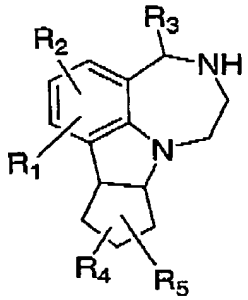
R_3 is hydrogen, alkyl of 1-6 carbon atoms, cycloalkyl, alkoxy of 1-6 carbon atoms, fluorinated alkyl of from 1 to 6 carbon atoms, -NH-SO_2-alkyl of 1-6 carbon atoms, -SO_2-NH-alkyl of 1-6 carbon atoms, alkyl amide of 1-6 carbon atoms, amino, alkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms per alkyl moiety, fluorinated alkoxy of 1-6 carbon atoms, acyl of 2-7 carbon atoms, aryl, or aroyl; the process comprising the steps of:

treating an optionally substituted amine compound of the formula:



with an aldehyde in the presence of an acid to provide an optionally substituted diazabenzo [cd]cyclopenta[a]azulene compound of the formula:



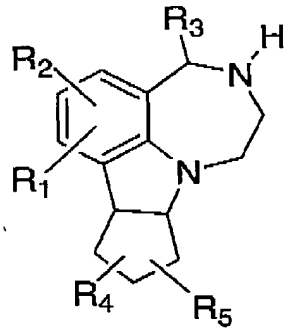
wherein R_1, R_2, R_3, R_4 and R_5 are defined as above.

Claims 20 to 22 (canceled)

23. (Previously presented) The process of Claim 19 wherein the aldehyde comprises at least formaldehyde or acetaldehyde.

24. (Previously presented) The process of Claim 23 wherein the acid comprises at least trifluoroacetic acid.

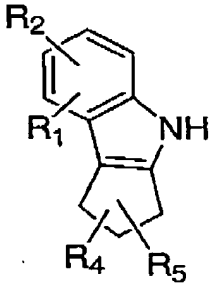
25. (Previously presented) A process for preparing a compound of the formula:



wherein R_1, R_2, R_4 and R_5 are each, independently, hydrogen, hydroxy, alkyl of 1-6 carbon atoms, cycloalkyl, alkoxy of 1-6 carbon atoms, halogen, fluorinated alkyl of from 1 to 6 carbon atoms, -CN, -NH-SO_2-alkyl of 1-6 carbon atoms, -SO_2-NH-alkyl of 1-6 carbon atoms, alkyl amide of 1-6 carbon atoms, amino, alkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms per alkyl moiety, fluorinated alkoxy of 1-6 carbon atoms, acyl of 2-7 carbon atoms, aryl or aroyl;

R_3 is hydrogen, alkyl of 1-6 carbon atoms, cycloalkyl, alkoxy of 1-6 carbon atoms, fluorinated alkyl of from 1 to 6 carbon atoms, -NH-SO_2-alkyl of 1-6 carbon atoms, -SO_2-NH-alkyl of 1-6 carbon atoms, alkyl amide of 1-6 carbon atoms, amino, alkylamino of 1-6 carbon atoms, dialkylamino of 1-6 carbon atoms per alkyl moiety, fluorinated alkoxy of 1-6 carbon atoms, acyl of 2-7 carbon atoms, aryl, or aroyl; the process comprising the steps of:

a) treating an optionally substituted cyclopenta[b]indole compound of the formula:



with an electrophile to form an optionally substituted nitrile compound or an optionally substituted cyclopenta[b]indol-4-ylacetamide compound of the formulas:

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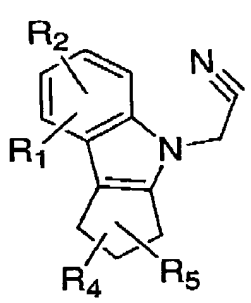
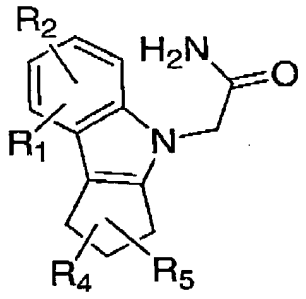
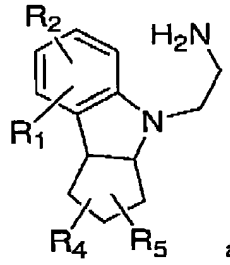


or



b) treating the optionally substituted nitrile compound or optionally substituted cyclopenta[b]indol-4-ylacetamide compound of step a) with one or more reducing agents to provide an optionally substituted amine compound of the formula:



and

c) treating the amine compound of step b) with an aldehyde in the presence of an acid to form an optionally substituted diaza-benzo[cd]cyclopenta[a]azulene compound of the formula: